Contents

ELECTRONICS AND OPTICS

A novel, very high breakdown voltage, field effect transistor prepared by molecular beam epitaxy 1
W. C. Liu, W. S. Lour, C. Y. Sun and H. R. Chen (Tainan, Taiwan)

Hall effect in MnAl films 7
M. A. Angadi and V. Thanigaimani (Trinidad and Tobago, West Indies)

Transport properties of lead telluride films 15
A. B. Mandale (Poona, India)

Amorphous indium oxide 23
J. R. Bellingham, W. A. Phillips and C. J. Adkins (Cambridge, U.K.)

Optical properties of selectively absorbing r.f. sputtered Ni–Al_2O_3 composite films. 33
T. S. Sathiaraj and R. Thanagaraj (New Delhi, India), H. Al Sharbaty (Baghdad, Iraq) and O. P. Agnihotri (New Delhi, India)

The effect of glass frits on the microstructure and electrical properties of bismuth ruthenate thick film resistors 43
S. H. Nam and H. G. Kim (Seoul, Korea)

METALLURGICAL AND PROTECTIVE LAYERS

Friction and wear characteristics of cermet-type metal films at cryogenic temperatures 53
D. L. Chambers, K. A. Taylor and C. T. Wan (Hilliard, OH, U.S.A.)

The influence of titanium nitride reactive magnetron sputtering on hardened tool steel surfaces. 63
M. Y. Al-Jaroudi, H. T. G. Hentzell, S. Gong (Linköping, Sweden) and A. Bengtson (Stockholm, Sweden)

Effect of N_2-to-$TiCl_4$ flow rate ratio on the properties of TiN coatings formed by d.c. discharge plasma-assisted chemical vapor deposition. 77
K. Oguri, H. Fujita and T. Arai (Aichi, Japan)

The indentation and wear properties of a thermal-diffusion-boronized Co–Cr–W–C alloy 89
C. V. Cooper (East Hartford, CT, U.S.A.)

Phase formation and characterization of hard coatings in the Ti–Al–N system prepared by the cathodic arc ion plating method 99
T. Ikeda and H. Satoh (Kobe, Japan)

PREPARATION AND CHARACTERIZATION

Characterization of beryllium-implanted GaAsP/GaP strained-layer superlattice structure 111
M. C. Shrivastava (Indore, India) and S. Swaminathan (Roorkee, India)

High T_c superconducting films on silicon wafers 117
K. G. Kreider, J. P. Cline, A. Shapiro (Gaithersburg, MD, U.S.A.) and J. Moreland (Boulder, CO, U.S.A.)

Kinetics of reaction at room temperature in thin silver–metal couples 127
Ž. Marinković and V. Simić (Zemun-Belgrade, Yugoslavia)

Cathodic electrodeposition of $CuInSe_2$ thin films 137
C. Guillén, E. Galiano and J. Herrero (Madrid, Spain)

Oxidation kinetics of metal films at 300 K studied by the piezoelectric quartz crystal microbalance technique 147
H. Cichy and E. Fromm (Stuttgart, F.R.G.)

Structural characterization of pure and vanadium doped films of r.f. sputtered SiO_2 159
J. J. DeLima and A. E. Owen (Edinburgh, U.K.)

Preparation of organic thin films by an electrospray technique
I. Crystal forms and their orientation in poly(vinylidene fluoride) films . . . 175
J. Sakata and M. Mochizuki (Aichi, Japan)

Determination of properties of thin thermal SiO_2 on silicon by spectroscopic ellipsometry 185
V. Nayar, C. Pickering and A. M. Hodge (Malvern, U.K.)

Influence of heat treatment in different atmospheres on the photoluminescence of SnO_2 films 193
W. Wang and K. Liao (Lanzhou, China)

Granulométrie instantanée d'un condensat métallique discontinu déduite de mesures de sa conductance et de son épaisseur 199
B. Vidal, G. Desrousseaux et A. Carlan (Marseille, France)

X-ray diffraction peak profile analysis of TiN_x films prepared on silicon by reactive ion beam assisted deposition 213
P. Scardi (Trento, Italy), D. C. Kothari (Bombay, India) and L. Guzman (Trento, Italy)

Thin film growth of AgCl on NaCl(001) 225
H. Haefke (Saale, F.R.G.), R. Mattheis (Jena, F.R.G.) and M. Krohn (Saale, F.R.G.)

Effects of preparation conditions of the bulk and source temperature on the composition of As_2Se_3 films 237
T. Bando (Tsubata, Japan), D. P. Gosain (Kanazawa, Japan), S. Okano (Tsubata, Japan) and M. Suzuki (Kanazawa, Japan)

Argon gas pressure dependence of the columnar grain structure in iron films deposited obliquely by sputtering 245
K. Itoh, M. Kamiya, K. Hara (Kumamoto, Japan), T. Hashimoto (Tottori, Japan), K. Okamoto (Chiba, Japan) and H. Fujiwara (Hiroshima, Japan)

Suitable gas combinations for pure diamond film deposition 257
Y. Muranaka, H. Yamashita and H. Miyadera (Ibaraki, Japan)

Preparation of a thin film of Pb_3O_4 by thermal treatment of PbO_2 film 273
S. Kumar, M. Sharon and S. R. Jawalekar (Bombay, India)

LANGMUIR–BLODGETT AND RELATED FILMS

Electrostatic and structural alterations of lipid monolayers and bilayers by interaction with valinomycin and phloretin 279
U. J. Krull, R. N. Koilpillai, C. O. Rae and E. T. Vandenburg (Mississauga, Ont., Canada)

Characterization of 9,10 anthraquinone thin films 289
A. Latef, J. C. Bernede and S. Benhida (Nantes, France)

Fabrication and characterization of $AlSt_3/Al_2O_3$ Langmuir–Blodgett film/alumina multilayer structure. 301
T. Zheng, L. Liu, W. Wang, J. Zheng, Y. Shen, Z. Zhang and Z. Wang (Shanghai, China)

Langmuir–Blodgett films investigated by means of the spontaneous desorption mass spectrometry 307
R. Schmidt, B. Nees, Ch. Schoppmann, D. Brandl, A. Ostrowski, H. Voit (Erlangen, F.R.G.), D. Johannsmann and W. Knoll (Mainz, F.R.G.)

CONDENSED MATTER FILM BEHAVIOUR

Diagnostics of low temperature plasmas: the electron component 319
D. M. Manos, J. L. Cecchi, C. W. Cheah and H. F. Dylla (Princeton, NJ, U.S.A.)

Electronic properties of the organic 2,3-diphenylbenzofurane ($C_{20}H_{14}O$) and 2,3-diphenylindole ($C_{20}H_{15}N$) solid compounds 337
R. Girlanda, G. Martino, G, Mondio, M. R. Pelaggi and A. Gazzara (Messina, Italy) and G. Valle (Padova, Italy)

An SnO_2 sintered layer for phenylarsine detection 349
J. Zacheja, A. Schütze, A. Brauers and D. Kohl (Aachen, F.R.G.)

Investigation of gallium and indium during melting 357
V. P. Maiboroda (Kiev, U.S.S.R.)

A two-dimensional Lennard-Jones lattice gas
II: Ordering phenomena on a square lattice 367
A. Patrykiejew (Mainz, F.R.G.) and P. Borowski (Lublin, Poland)

LETTERS

Continuous changes of optical band gap energy in thin films of $Bi_xSb_{2-x}S_3$ solid solutions ($x = 0$ to 2) prepared by solution pyrolysis of dithiocarbamate complexes L1
R. Nomura, T. Toyosaki and H. Matsuda (Osaka, Japan)

Interfacial analysis of aluminum and copper thin films evaporated on polyethylene-terephthalate L5
J. F. Silvain, J. J. Ehrhardt (Villers les Nancy, France) and P. Lutgen (Luxembourg, Luxembourg)

Ohmic and Schottky contacts on photochemically passivated n-GaAs surfaces L11
K. Prasad, L. Faraone and A. G. Nassibian (Nedlands, W.A., Australia)

ERRATUM 381
ANNOUNCEMENTS 383
AUTHOR INDEX 385